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Table A1. Major Utility Units Firing Coal in 1997 – 2001, Fuel Consumption, Utilization, and Electric Generation

Company	Source	Unit	Year Installed	Unit Age	Capacity (MW)	Average Fuel Consumption (mmBTU)			Average Capacity Factor (%)			Average Electric Generation (kWh)		
						1997-1999	1998-2000	1999-2001	1997-1999	1998-2000	1999-2001	1997-1999	1998-2000	1999-2001
Alliant	Columbia	1	1975	28	512	41,042,808	41,371,588	41,466,684	80%	80%	80%	3,570,759,167	3,599,363,335	3,607,636,768
	Columbia	2	1978	25	511	43,087,156	42,183,095	41,374,071	84%	82%	80%	3,741,297,658	3,662,797,204	3,592,548,930
	Edgewater	3	1951	52	60	4,276,938	4,572,581	4,649,996	58%	62%	63%	304,047,725	325,065,024	330,568,460
	Edgewater	4	1969	34	330	19,405,030	19,375,602	19,328,937	63%	63%	63%	1,814,581,975	1,811,830,198	1,807,466,481
	Edgewater	5	1985	18	380	29,902,952	30,190,928	29,465,949	78%	79%	77%	2,602,638,945	2,627,703,278	2,564,603,927
	Nelson Dewey	1	1959	44	100	7,134,536	6,705,282	6,807,787	65%	61%	62%	566,233,042	532,165,212	540,300,582
	Nelson Dewey	2	1962	41	100	7,589,344	7,173,473	6,625,805	69%	65%	60%	602,328,889	569,323,228	525,857,513
	Rock River	1	1954	49	75	3,523,611	2,272,353	1,065,675	41%	27%	13%	272,444,124	175,697,371	82,397,526
DPC	Rock River	2	1955	48	75	3,925,967	2,566,126	1,372,239	46%	30%	16%	303,554,149	198,411,830	106,100,954
	Alma	1	1959	44	20	522,117	603,429	575,214	30%	35%	33%	52,739,125	60,952,391	58,102,424
	Alma	2	1959	44	22	447,864	513,254	515,129	26%	30%	30%	49,762,630	57,028,185	57,236,519
	Alma	3	1959	44	21	478,393	547,839	635,054	19%	22%	25%	34,596,563	39,618,782	45,926,026
	Alma	4	1959	44	59	2,751,718	2,883,236	2,359,946	59%	62%	51%	304,942,453	319,517,137	261,526,661
	Alma	5	1959	44	85	3,737,677	3,903,264	3,559,973	54%	57%	52%	402,869,101	420,717,017	383,715,071
	Genoa	3	1969	34	376	20,097,173	18,827,523	19,561,645	75%	71%	73%	2,486,111,835	2,329,050,427	2,419,864,581
	JP Madget	JPM	1979	24	374	24,158,710	25,181,642	25,457,875	73%	76%	77%	2,387,779,477	2,488,883,254	2,516,185,353
WE	Oak Creek	5	1960	43	258	13,536,526	12,823,958	14,930,492	67%	64%	74%	1,519,766,627	1,439,765,557	1,676,269,374
	Oak Creek	6	1961	42	260	12,912,302	15,060,968	13,733,384	65%	75%	69%	1,470,520,634	1,715,221,974	1,564,029,753
	Oak Creek	7	1965	38	280	20,788,775	21,072,776	19,658,702	91%	92%	86%	2,231,923,661	2,262,414,565	2,110,596,876
	Oak Creek	8	1967	36	305	19,028,892	19,774,981	20,884,450	85%	88%	93%	2,260,931,850	2,349,579,005	2,481,401,384
	Pleasant Prairie	1	1980	23	580	51,581,077	48,520,824	50,035,533	96%	90%	93%	4,858,237,197	4,570,002,941	4,712,667,966
	Pleasant Prairie	2	1985	18	580	50,871,606	51,730,991	50,388,042	94%	96%	93%	4,791,414,692	4,872,357,061	4,745,869,528
	Port Washington	1	1935	68	80	3,379,433	3,675,803	3,710,639	35%	38%	38%	244,222,824	265,640,687	268,158,217
	Port Washington	2	1943	60	80	3,989,526	4,087,488	3,757,328	41%	42%	39%	288,312,605	295,392,111	271,532,261
	Port Washington	3	1948	55	82	4,080,525	3,990,400	3,920,299	42%	41%	40%	302,261,111	295,585,160	290,392,519
	Port Washington	4	1949	54	80	3,363,659	3,780,261	3,749,563	35%	39%	39%	243,082,855	273,189,618	270,971,153
	Valley	1	1968	35	64	4,166,888	4,022,680	4,028,322	56%	54%	54%	315,225,545	304,316,217	304,743,061
	Valley	1	1968	35	62	4,228,982	3,977,843	4,037,098	57%	54%	54%	309,925,419	291,520,433	295,862,998
	Valley	2	1969	34	70	4,501,956	4,439,179	4,401,651	61%	60%	60%	375,163,028	369,931,556	366,804,278
	Valley	2	1969	34	70	4,684,626	4,647,078	4,452,039	64%	63%	61%	390,385,500	387,256,500	371,003,250
	County Plant	1,2,3		> 40		1,404,661	1,404,661	1,404,661	38%	38%	38%	ND	ND	ND
WPSC	Pulliam	3	1943	60	26	1,058,716	1,125,279	1,123,708	34%	37%	36%	78,289,579	83,211,782	83,095,586
	Pulliam	4	1947	56	27	1,358,317	1,564,953	1,628,013	44%	51%	53%	104,307,619	120,175,546	125,018,038
	Pulliam	5	1949	54	52	3,681,988	3,838,910	3,924,780	74%	77%	79%	336,491,025	350,831,845	358,679,337
	Pulliam	6	1951	52	67	5,454,586	5,576,382	5,909,046	83%	85%	90%	489,954,799	500,895,018	530,776,383
	Pulliam	7	1958	45	88	6,545,703	7,018,831	6,398,109	93%	100%	91%	718,321,353	770,242,122	702,124,408
	Pulliam	8	1964	39	135	10,486,074	10,285,958	10,069,780	93%	91%	89%	1,099,083,808	1,078,108,987	1,055,450,509
	Weston	1	1954	49	68	4,179,546	4,157,853	4,473,425	58%	58%	62%	344,495,885	342,707,856	368,718,667
	Weston	2	1960	43	92	6,139,392	6,698,297	6,809,183	81%	89%	90%	656,772,132	716,561,969	728,424,264
Total	Weston	3	1981	22	337	29,642,435	29,378,815	28,993,558	87%	86%	85%	2,574,613,526	2,551,716,635	2,518,254,938
Alliant					2,143	159,888,341	156,411,028	152,157,144	70%	69%	67%	13,777,885,674	13,502,356,680	13,157,481,140
DPC					957	52,193,652	52,460,187	52,664,835	67%	68%	68%	5,718,801,184	5,715,767,194	5,742,556,635
WE					2,851	201,114,774	201,605,231	201,687,545	77%	77%	77%	19,601,373,547	19,692,173,386	19,730,302,619
WPSC					892	68,546,757	69,645,278	69,329,602	81%	82%	82%	6,402,329,728	6,514,451,760	6,470,542,128
Total					6,843	481,743,523	480,121,724	475,839,126	74%	74%	73%	45,500,390,132	45,424,749,020	45,100,882,521

Notes:

- Fuel consumption for units > 25 MW derived from USEPA Acid Rain database.
- Fuel consumption for units < 25 MW derived from DNR air emission inventory.
- Capacity Factor = fuel consumption / theoretical fuel consumption x 100
- Electric generation = Unit Capacity x Capacity Factor x 8760 hours per year

Table A2. Estimated Mercury Control and Average Emissions for 1997 through 2001

Major Utility	Facility	Gen Unit	Fuel Class	Fuel Hg Content (lb/Tbtu)	Chlorine (ppm)	Existing Air Pollution Control Equipment	Estimate Mercury Control from Existing Equipment (1)	Other Indications of Control Efficiency (see Key)	Annual Fuel Mercury Content (lbs)			Annual Mercury Emissions (lbs)		
									3 Year Ave 1997 - 1999	3 Year Ave 1998 - 2000	3 Year Ave 1999 - 2001	3 Year Ave 1997 - 1999	3 Year Ave 1998 - 2000	3 Year Ave 1999 - 2001
Alliant	Columbia	1**	Sub	4.77	50	ESPh	0%	negative/10%	196	197	198	196	197	198
	Columbia	2	Sub	4.77	50	ESPc	12%		206	201	197	180	176	173
	Edgewater	3	Sub	4.37	61	ESPc	14%		19	20	20	16	17	17
	Edgewater	4	Sub	4.37	61	ESPc	14%		85	85	84	73	72	72
	Edgewater	5	Sub	4.37	61	ESPc	14%		131	132	129	112	113	110
	Nelson Dewey	1**	Sub	6.25	409	ESPh	15%	53%/negative	45	42	43	38	36	36
	Nelson Dewey	2	Sub	6.25	409	ESPh	15%	53%/negative	47	45	41	40	38	35
	Rock River	1	Sub	6.19	344	ESPc	30%		22	14	7	15	10	5
	Rock River	2	Sub	6.19	344	ESPc	30%		24	16	8	17	11	6
DPC	Alma	1*	Bitum	5.69		ESPc	35%		3	3	3	2	2	2
	Alma	2*	Bitum	5.69		ESPc	35%		3	3	3	2	2	2
	Alma	3*	Bitum	5.69		ESPc	35%		3	3	4	2	2	2
	Alma	4	Sub/Bitum	4.19	1529	ESPc	30%		12	12	10	10	11	9
	Alma	5	Sub/Bitum	4.19	1529	ESPc	30%		16	16	15	14	15	13
	Genoa	3	Sub/Bitum	4.6	2552	ESPc	55%		92	87	90	42	39	40
	JP Madget	1	Sub	4.84	19	ESPh	0%		117	122	123	117	122	123
WE	Oak Creek	5	Sub/Bitum	5.34	346	ESPc	30%		72	68	80	50	48	56
	Oak Creek	6	Sub/Bitum	5.26	246	ESPc	28%		68	79	72	49	57	52
	Oak Creek	7	Sub/Bitum	5.32	313	ESPc	30%		111	112	105	78	79	73
	Oak Creek	8	Sub/Bitum	5.12	80	ESPc	21%		97	101	107	77	80	85
	Pleasant Prairie	1	Sub	9.41	14	ESPc	0%	5%	485	457	471	485	457	471
	Pleasant Prairie	2	Sub	9.41	14	ESPc	0%	5%	479	487	474	479	487	474
	Port Washington	1	Bitum	6.83	246	ESPc	20%		23	25	25	18	20	20
	Port Washington	2	Bitum	6.83	1231	ESPc	40%		27	28	26	16	17	15
	Port Washington	3	Bitum	6.83	1231	ESPc	40%		28	27	27	17	16	16
	Port Washington	4**	Bitum	6.83	246	ESPc	20%	29%/44%	23	26	26	18	21	20
	Valley	1	Bitum	3.51	548	FF	72%	negative	15	14	14	4	4	4
	Valley	1	Bitum	3.51	548	FF	72%	negative	15	14	14	4	4	4
	Valley	2**	Bitum	3.51	548	FF	72%	negative	16	16	15	4	4	4
	Valley	2	Bitum	3.51	548	FF	72%	negative	16	16	16	5	5	4
	County Pant	1,2,3*	Bitum	7.8		ESPc	36%		11	11	11	7	7	7

Table A2. Estimated Mercury Control and Average Emissions for 1997 through 2001 (con't)

Major Utility	Facility	Gen Unit	Fuel Class	Fuel Hg Content (lb/Tbtu)	Chlorine (ppm)	Existing Air Pollution Control Equipment	Estimate Mercury Control from Existing Equipment (1)	Other Indications of Control Efficiency (see Key)	Annual Fuel Mercury Content (lbs)			Annual Mercury Emissions (lbs)		
									3 Year Ave 1997 - 1999	3 Year Ave 1998 - 2000	3 Year Ave 1999 - 2001	3 Year Ave 1997 - 1999	3 Year Ave 1998 - 2000	3 Year Ave 1999 - 2001
WPSC	Pulliam	3	Sub	3.1	64	ESPc	22%		3	3	3	3	3	3
	Pulliam	4	Sub	3.1	64	ESPc	22%		4	5	5	3	4	4
	Pulliam	5	Sub	3.1	64	ESPc	22%		11	12	12	9	9	9
	Pulliam	6	Sub	3.1	64	ESPc	22%		17	17	18	13	13	14
	Pulliam	7	Sub	3.1	64	ESPc	22%		20	22	20	16	17	15
	Pulliam	8	Sub	3.1	64	ESPc	22%		33	32	31	25	25	24
	Weston	1	Sub	4.75	158	ESPc	28%		20	20	21	14	14	15
	Weston	2	Sub	4.75	158	ESPc	28%		29	32	32	21	23	23
	Weston	3	Sub	4.75	158	ESPh	7%		141	140	138	131	130	128
Subtotals								Alliant	774	752	728	687	671	653
								DPC	245	246	248	188	192	192
								WE	1,486	1,481	1,482	1,312	1,304	1,306
								WPSC	278	282	281	235	237	236
								Total	2,783	2,762	2,739	2,422	2,405	2,387

System-Wide Percent Mercury Control			
Major Utility	3 Year Ave 1997 - 1999	3 Year Ave 1998 - 2000	3 Year Ave 1999 - 2001
Alliant	11%	11%	10%
DPC	23%	22%	22%
WE	12%	12%	12%
WPSC	16%	16%	16%
Major Utility Average	13%	13%	13%

Notes

1) The Electric Power Research Institute (EPRI) evaluated the ICR data and estimated unit emissions based on fuel chlorine content and pollution control equipment. This estimate either agreed with or is more conservative for units that participated in ICR Phase II testing.

* - Units that were not required to perform ICR Phase I fuel testing. Fuel Hg content estimated using ICR database by fuel type and origin.

** - Units were required to perform ICR Phase II flue gas mercury emission and speciation testing.

Key: "Other Indications of Hg Control Efficiency"

Columbia 1 - ICR phase II testing indicated 10% reduction measured on a flue gas to flue gas basis across the control equipment and negative reduction measured on a coal to post control equipment flue gas. (EPA-600/R-01-109, De Nelson Dewey - ICR phase II testing indicated a negative reduction measured on a flue gas to flue gas basis across the control equipment and 53% reduction measured on a coal to post control equipment flue gas. (EPA-600/R-01-105 Pleasant Prairie 2 - Flue gas testing across pollution control equipment conducted during the full scale testing of AC sorbent injection indicated a baseline reduction of 5%.

Port Washington 4 - ICR phase II testing indicated 29% reduction measured on a flue gas to flue gas basis across the control equipment and 44% removal measured on a coal to post control equipment flue gas. (EPA-600/R-01-109, I Valley 3 - ICR phase II testing yielded negative results that EPA indicated as invalid. (EPA-600/R-01-109, Dec 2001)

Table A3. Estimated Mercury Control and Emissions based on Anticipated Equipment and Operations in 2008.

Major Utility	Facility	Unit	Fuel Class	Fuel Hg Content (lb/Tbtu)	Chlorine (ppm)	Existing Air Pollution Control Equipment	Hg Control Efficiency (1)	Future Anticipated Change in Operation / Configuration	Annual Fuel Mercury Content (lbs) using baseline fuel	Annual Mercury Emissions (lbs) using baseline fuel consumption
Alliant	Columbia	1**	Sub	4.77	50	ESPh	0%		196	196
	Columbia	2	Sub	4.77	50	ESPh	12%		206	180
	Edgewater	3	Sub	4.37	61	ESPh	14%		19	16
	Edgewater	4	Sub	4.37	61	ESPh	14%		85	73
	Edgewater	5	Sub	4.37	61	ESPh	14%		131	112
	Nelson Dewey	1**	Sub	6.25	409	ESPh	15%		45	38
	Nelson Dewey	2	Sub	6.25	409	ESPh	15%		47	40
	Rock River	1	Sub	6.19	344	ESPh	100%	Conversion to NG	22	-
	Rock River	2	Sub	6.19	344	ESPh	100%	Conversion to NG	24	-
DPC	Alma	1*	Bitum	5.69		ESPh	35%		3	2
	Alma	2*	Bitum	5.69		ESPh	35%		3	2
	Alma	3*	Bitum	5.69		ESPh	35%		4	2
	Alma	4	Sub/Bitum	4.19	1529	ESPh	30%		10	9
	Alma	5	Sub/Bitum	4.19	1529	ESPh	30%		15	13
	Genoa	3	Sub/Bitum	4.6	2552	ESPh	55%		90	40
	JP Madget	1	Sub	4.84	19	ESPh	0%		123	123
WE	Oak Creek	5	Sub/Bitum	5.34	346	ESPh	30%		80	56
	Oak Creek	6	Sub/Bitum	5.26	246	ESPh	28%		72	52
	Oak Creek	7	Sub/Bitum	5.32	313	ESPh	30%		105	73
	Oak Creek	8	Sub/Bitum	5.12	80	ESPh	21%		107	85
	Pleasant Prairie	1	Sub	9.41	14	ESPh	0%		471	471
	Pleasant Prairie	2	Sub	9.41	14	ESPh	0%		474	474
	Port Washington	1	Bitum	6.83	246	ESPh	100%	Repowered to NG	25	-
	Port Washington	2	Bitum	6.83	1231	ESPh	100%	Repowered to NG	26	-
	Port Washington	3	Bitum	6.83	1231	ESPh	100%	Repowered to NG	27	-
	Port Washington	4**	Bitum	6.83	246	ESPh	100%	Repowered to NG	26	-
	Valley	1	Bitum	3.51	548	FF	72%		14	4
	Valley	1	Bitum	3.51	548	FF	72%		14	4
	Valley	2**	Bitum	3.51	548	FF	72%		15	4
	Valley	2	Bitum	3.51	548	FF	72%		16	4
	County Plant	1,2,3*	Bitum	7.8		ESPh	36%		11	7

Table A3. Estimated Mercury Control and Emissions based on Anticipated Equipment and Operations in 2008 (con't).

Major Utility	Facility	Unit	Fuel Class	Fuel Hg Content (lb/Tbtu)	Chlorine (ppm)	Existing Air Pollution Control Equipment	Hg Control Efficiency (1)	Future Anticipated Change in Operation / Configuration	Annual Fuel Mercury Content (lbs) using baseline fuel	Annual Mercury Emissions (lbs) using baseline fuel consumption
WPSC	Pulliam	3	Sub	3.1	64	ESPC	22%		3	3
	Pulliam	4	Sub	3.1	64	ESPC	22%		5	4
	Pulliam	5	Sub	3.1	64	ESPC	22%		12	9
	Pulliam	6	Sub	3.1	64	ESPC	22%		18	14
	Pulliam	7	Sub	3.1	64	ESPC	22%		20	15
	Pulliam	8	Sub	3.1	64	ESPC	22%		31	24
	Weston	1	Sub	4.75	158	ESPC	28%		21	15
	Weston	2	Sub	4.75	158	ESPC	28%		32	23
	Weston	3	Sub	4.75	158	FF	49%	Fabric Filter PM Cntrl	138	70
	Subtotals							Alliant	774	654
								DPC	248	192
								WE	1,482	1,234
								WPSC	281	178
								Major Utility Total	2,785	2,259

System-Wide Mercury Control		
Alliant		15%
DPC		22%
WE		17%
WPSC		37%
Major Utility Average		19%

Notes

1) Control efficiency based on determination in Table A2 for units without equipment changes. For units with changes the ICR data results is applied for that unit type and fuel.

* - Units that were not required to perform ICR Phase I fuel testing. Fuel Hg content estimated using ICR database by fuel type and origin.

** - Units were required to perform ICR Phase II flue gas mercury emission and speciation testing.

Table A4. Estimated Percent Mercury Control for each Utility Resulting from Existing and Surrogate Control Technology

Utility	Source	Unit	CAP MW	Age	Existing Mercury Control by 2008	Surrogate Control Technology		Surrogate Control Technology and Total Mercury Control as Percent of Utility Total Mercury											
						System Configuration	Unit Control Efficiency	3	4	5	6	7	8	9	10	11	12		
Alliant (1)	Edgewater	3	60	51	0.4%	AC inj	60%									1.3%	1.3%	1.3%	
	Rock River	1	75	48	2.8%														
	Rock River	2	75	47	3.1%														
	Nelson Dewey	1	100	43	0.9%	AC inj	60%							3.5%	3.5%	3.5%	3.5%		
	Nelson Dewey	2	100	40	0.9%	AC inj	60%						3.7%	3.7%	3.7%	3.7%	3.7%		
	Edgewater	4	330	33	1.6%	ACinj / FF	90%									9.9%	9.9%		
	Edgewater	5	380	17	2.4%	ACinj / FF	90%								15.2%	15.2%	15.2%		
	Columbia	2	511	27	3.3%	ACinj / FF	90%							23.9%	23.9%	23.9%	23.9%		
	Columbia	1	512	24	0.0%	ACinj / FF	90%					22.8%	22.8%	22.8%	22.8%	22.8%	22.8%		
	Surrogate Technology Controlled Emission							0%	0%	0%	0%	23%	27%	54%	70%	80%	80%		
Existing Equipment Controlled Emissions				15.4%			15%	15%	15%	15%	15%	15%	10%	8%	6%	6%			
Total Controlled Emissions							15%	15%	15%	15%	38%	41%	64%	78%	86%	86%			
DPC	Alma	1	20	43	0.5%	AC inj	60%									0.7%	0.7%	0.7%	
	Alma	3	21	43	0.5%	AC inj	60%									0.7%	0.7%	0.7%	
	Alma	2	22	43	0.4%	AC inj	60%									0.6%	0.6%	0.6%	
	Alma	4	59	43	0.4%	AC inj	60%							2.8%	2.8%	2.8%	2.8%		
	Alma	5	85	43	0.7%	AC inj	60%						3.8%	3.8%	3.8%	3.8%	3.8%		
	JP Madget	1	374	23	0.0%	ACinj / FF	90%									43.0%	43.0%	43.0%	
	Genoa	3	376	33	20.0%	ACinj / FF	90%								34.0%	34.0%	34.0%		
	Surrogate Technology Controlled Emission							0%	0%	0%	0%	43%	47%	84%	86%	86%	86%		
	Existing Equipment Controlled Emissions				22.5%			23%	23%	23%	23%	23%	22%	1%	0%	0%	0%		
	Total Controlled Emissions							23%	23%	23%	23%	66%	69%	85%	86%	86%	86%		
WE (2)	County Plant	1,2,3			0.3%	AC inj	60%									0.5%	0.5%	0.5%	
	Valley	1	62	34	0.7%	AC inj	80%								0.8%	0.8%	0.8%	0.8%	
	Valley	1	64	34	0.7%	AC inj	80%								0.8%	0.8%	0.8%	0.8%	
	Valley	2	70	33	0.8%	AC inj	80%							0.9%	0.9%	0.9%	0.9%	0.9%	
	Valley	2	70	33	0.8%	AC inj	80%							0.9%	0.9%	0.9%	0.9%	0.9%	
	Port Washington	1	80	67	1.7%														
	Port Washington	2	80	59	1.7%														
	Port Washington	3	82	54	1.8%														
	Port Washington	4	80	53	1.7%														
	Oak Creek	5	258	42	1.6%	ACinj / FF	90%									4.4%	4.4%	4.4%	
	Oak Creek	6	260	41	1.4%	ACinj / FF	90%									4.1%	4.1%	4.1%	
	Oak Creek	7	280	37	2.1%	ACinj / FF	90%										6.7%	6.7%	
	Oak Creek	8	305	35	1.5%	ACinj / FF	90%											5.9%	
	Pleasant Prairie	1	580	22	0.0%	ACinj / FF	90%					29.6%	29.6%	29.6%	29.6%	29.6%	29.6%	29.6%	
	Pleasant Prairie	2	580	17	0.0%	ACinj / FF	90%								29.2%	29.2%	29.2%	29.2%	
	Surrogate Technology Controlled Emission							0%	0%	0%	0%	30%	31%	62%	71%	77%	84%		
	Existing Equipment Controlled Emissions				16.8%			17%	17%	17%	17%	17%	15%	14%	11%	9%	7%		
	Total Controlled Emissions							17%	17%	17%	17%	46%	47%	76%	82%	86%	91%		

Table A4. Estimated Percent Mercury Control for each Utility Resulting from Existing and Surrogate Control Technology (con't).

Utility	Source	Unit	CAP MW	Age	Existing Mercury Control by 2008	Surrogate Control Technology		Surrogate Control Technology and Total Mercury Control as Percent of Utility Total Mercury									
						System Configuration	Unit Control Efficiency	3	4	5	6	7	8	9	10	11	12
WPSC(3)	Pulliam	3	26	59	0.3%	AC inj	60%							0.7%	0.7%	0.7%	0.7%
	Pulliam	4	27	55	0.3%	AC inj	60%							0.9%	0.9%	0.9%	0.9%
	Pulliam	5	52	53	1.0%	AC inj	60%						2.5%	2.5%	2.5%	2.5%	2.5%
	Pulliam	6	67	51	1.5%	AC inj	60%						3.6%	3.6%	3.6%	3.6%	3.6%
	Weston	1	68	48	2.1%	ACinj / FF	90%									6.4%	6.4%
	Pulliam	7	88	44	1.6%	ACinj / FF	90%										6.6%
	Weston	2	92	42	3.2%	ACinj / FF	90%								9.4%	9.4%	9.4%
	Pulliam	8	135	38	2.5%	ACinj / FF	90%							10.5%	10.5%	10.5%	10.5%
	Weston	3	337	21	24.0%	ACinj / FF	90%					45.5%	45.5%	45.5%	45.5%	45.5%	45.5%
	Surrogate Technology Controlled Emission							0%	0%	0%	0%	46%	52%	64%	73%	80%	86%
	Existing Equipment Controlled Emissions				36.5%			37%	37%	37%	37%	13%	10%	7%	4%	2%	0%
	Total Controlled Emissions							37%	37%	37%	37%	58%	62%	71%	77%	81%	86%
Major Utility Average	Surrogate Technology Controlled Emission							0%	0%	0%	0%	30%	34%	62%	73%	81%	84%
	Existing Equipment Controlled Emissions				19%			19%	19%	19%	19%	17%	14%	11%	8%	6%	4%
	Total Controlled Emissions							19%	19%	19%	19%	47%	48%	73%	81%	87%	88%

Notes:

Surrogate Control Technology:

AC: non-Core Generation Units - Injection of activated carbon prior to existing particulate control equipment with a unit control efficiency of 60% for units with an electrostatic precipitator and 80% for units with a fabric filter particulate

AC / FF: Core Generation Units - Installation of a dedicate fabric filter along with activated carbon injection after the existing particulate control equipment to yield a 90% unit control efficiency.

"Existing Controlled Emissions" - Reflects the amount of a utility's percent mercury control occurring at each unit. The unit's control efficiency is based on EPRI calculations or updated estimates based on ICR correlations and 1998-2000 fuel cons

1) Rock River existing controlled emissions reflects conversion from coal to natural gas.

2) Port Washington control based on planned repowering.

3) Weston 1, Weston 2, 3, Pulliam 7, and Pulliam 8 surrogate technology is polishing Fabric Filter / AC injection.

Table A5. Mercury Control Cost for Application of Surrogate Control Technology.

Company	Source	Unit	Capacity MW	Age	Estimated Cost in Nth Year (\$M)						High Cost in Nth Year (\$M)					
					7	8	9	10	11	12	7	8	9	10	11	12
Alliant	Edgewater	3	60	51				0.2	0.2	0.2				0.2	0.2	0.2
	Rock River	1	75	48												
	Rock River	2	75	47												
	Nelson Dewey	1	100	43			0.5	0.5	0.5	0.5			0.5	0.5	0.5	0.5
	Nelson Dewey	2	100	40		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5	0.5	0.5
	Edgewater	4	330	33					4.4	4.4					5.0	5.0
	Edgewater	5	380	17				5.6	5.6	5.6				6.7	6.7	6.7
	Columbia	2	511	27			7.7	7.7	7.7	7.7			9.0	9.0	9.0	9.0
	Columbia	1	512	24	7.7	7.7	7.7	7.7	7.7	7.7	9.0	9.0	9.0	9.0	9.0	9.0
	Total Annual Control Cost				8	8	16	22	26	26	9	10	19	26	31	31
	Accumulated Total Cost through Nth Year				8	16	32	54	81	107	9	19	37	63	94	125
DPC	Alma	1	20	43				0.0	0.0	0.0				0.1	0.1	0.1
	Alma	3	21	43				0.0	0.0	0.0				0.1	0.1	0.1
	Alma	2	22	43				0.0	0.0	0.0				0.1	0.1	0.1
	Alma	4	59	43			0.2	0.2	0.2	0.2			0.3	0.3	0.3	0.3
	Alma	5	85	43		0.3	0.3	0.3	0.3	0.3		0.4	0.4	0.4	0.4	0.4
	JP Madget	1	374	23	5.4	5.4	5.4	5.4	5.4	5.4	6.3	6.3	6.3	6.3	6.3	6.3
	Genoa	3	376	33			5.4	5.4	5.4	5.4			6.5	6.5	6.5	6.5
	Total Annual Control Cost				5	6	11	11	11	11	6	7	14	14	14	14
	Accumulated Total Cost through Nth Year				5	11	22	34	45	57	6	13	27	40	54	68
WE	County Plant	1,2,3						0.3	0.3	0.3				0.3	0.3	0.3
	Valley	1	62	34			0.4	0.4	0.4	0.4			0.4	0.4	0.4	0.4
	Valley	1	64	34			0.4	0.4	0.4	0.4			0.4	0.4	0.4	0.4
	Valley	2	70	33		0.4	0.4	0.4	0.4	0.4		0.4	0.4	0.4	0.4	0.4
	Valley	2	70	33		0.4	0.4	0.4	0.4	0.4		0.4	0.4	0.4	0.4	0.4
	Port Washington	1	80	67												
	Port Washington	2	80	59												
	Port Washington	3	82	54												
	Port Washington	4	80	53												
	Oak Creek	5	258	42				3.7	3.7	3.7				4.5	4.5	4.5
	Oak Creek	6	260	41				3.6	3.6	3.6				4.4	4.4	4.4
	Oak Creek	7	280	37					4.4	4.4					5.3	5.3
	Oak Creek	8	305	35						4.8						5.7
	Pleasant Prairie	1	580	22	9.7	9.7	9.7	9.7	9.7	9.7	11.1	11.1	11.1	11.1	11.1	11.1
	Pleasant Prairie	2	580	17			9.7	9.7	9.7	9.7			11.1	11.1	11.1	11.1
	Total Annual Control Cost				10	10	21	28	33	37	11	12	24	33	38	44
	Accumulated Total Cost through Nth Year				10	20	41	69	102	139	11	23	47	80	118	161

Table A5. Mercury Control Cost for Application of Surrogate Control Technology (con't).

Company	Source	Unit	Capacity MW	Age	Estimated Cost in Nth Year (\$M)						High Cost in Nth Year (\$M)					
					7	8	9	10	11	12	7	8	9	10	11	12
WPSC	Pulliam	3	26	59			0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1
	Pulliam	4	27	55			0.1	0.1	0.1	0.1			0.1	0.1	0.1	0.1
	Pulliam	5	52	53			0.2	0.2	0.2	0.2		0.3	0.3	0.3	0.3	0.3
	Pulliam	6	67	51		0.3	0.3	0.3	0.3	0.3		0.4	0.4	0.4	0.4	0.4
	Weston	1	68	48					0.9	0.9					1.5	1.5
	Pulliam	7	88	44						1.4						2.0
	Weston	2	92	42				1.4	1.4	1.4				2.0	2.0	2.0
	Pulliam	8	135	38			2.1	2.1	2.1	2.1			2.9	2.9	2.9	2.9
	Weston	3	337	21	5.2	5.2	5.2	5.2	5.2	5.2	6.3	6.3	6.3	6.3	6.3	6.3
	Total Annual Control Cost				5	6	8	9	10	12	6	7	10	12	14	16
	Accumulated Total Cost through Nth Year				5	11	19	28	38	50	6	13	23	36	49	65
Major Utility Total	Total Annual Control Cost				28	30	56	71	81	87	33	35	66	84	96	104
					-	-	-	-	-	-	-	-	-	-	-	-
	Accumulated Total Cost through Nth Year				28	58	114	185	266	353	33	68	134	219	315	419

Notes:

- Mercury control costs include annualized capital purchase and installation costs plus annual operating and maintenance costs.

- Costs are annualized over equipment lifetime and includes utility rate of return on investment.

"Estimated Cost" - The estimated average costs for installing and operating surrogate mercury control equipment by existing pollution control classes in place at Wisconsin utilities.

"High Cost" - Addresses additional costs on each unit for equipment modification or compensating design alternatives to mitigate potential barriers to achieving the target unit control efficiency.